

CanREA's 2050 Vision

# Powering Canada's Journey to Net-Zero



Canadian Renewable  
Energy Association

WIND. SOLAR. STORAGE.

“Powering Canada’s Journey to Net-Zero: CanREA’s 2050 Vision” is a wake-up call, an urgent call to action for governments, utilities, regulators, electricity system operators and the electricity industry, to get Canada started on the path to meeting its commitment to achieve net-zero greenhouse gas emissions by 2050.

## CanREA’s 2050 Vision

To pursue the least-cost path to this objective, Canada must decarbonize and double its electricity production. This expanded electricity production is needed to help reduce greenhouse-gas emissions in transportation, buildings, and industry. Luckily, this country has massive, untapped potential for low-cost wind and solar energy.

CanREA’s 2050 Vision presents an illustrative, but conservative scenario that would see wind and solar energy supply two-thirds of the new electricity required in Canada by 2050 and one-third of all electricity by that date. This would require Canada to deploy 3,800 MW of wind energy and 1,600 MW of solar energy annually for the next 29 years – increasing Canada’s wind and solar energy capacity almost ten-fold over the next three decades.



### We have no time to waste

The scale and speed of this deployment is unprecedented. While the wind, solar and energy storage industries are ready to take on the challenge, immediate action is required from legislators, regulators and other key electricity sector decision makers, to accelerate the deployment of these technologies and enable them to deliver the results Canada needs.

There is also a need for increased collaboration among Canada’s electricity stakeholders. Significant investments in other forms of electricity generation and infrastructure will be needed to enable the growth in wind and solar energy required. CanREA is committed to working with all stakeholders to ensure Canada implements the least-cost, reliable and sustainable pathway to Canada’s net-zero objective.



# Canada's to-do list: An urgent call to action for electricity decision-makers

**CanREA's 2050 Vision outlines 5 key tasks and 15 immediate actions required from governments, utilities, system operators and regulators.**

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## **Task 1: Decarbonize Canada's electricity production by 2035:**

- Adopt a Clean Electricity Standard that puts in place GHG-emission limits that will require Canada's electricity grid to be decarbonized by 2035.
- Ensure that existing natural gas-fired generation faces steadily increasing exposure to the carbon price, within federal and provincial carbon pricing frameworks, and is fully exposed to the carbon price by 2030.
- Consider the potential interaction between these measures and reflect this in their design.

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## **Task 2: Modernize Canada's electricity markets and regulatory structures to enable the lowest-cost pathway to grid decarbonization and expansion:**

- Define and provide economic value for services that maintain grid stability and security.
- Encourage innovation and experimentation with respect to deployment of and compensation for technologies that provide these services.
- Remove barriers to the participation of these technologies in the electricity system.
- Create the conditions to enable the largest number of service providers to compete for delivery of these services.

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## **Task 3: Build new wind, solar and energy storage in Canada, ensuring cost-effective outcomes from procurement processes for new decarbonized electricity generation:**

- In Alberta's deregulated market, pursue market and regulatory reforms to remove barriers to the deployment of disruptive technologies, such as energy storage and distributed energy resources.
- In Canada's other markets, ensure that procurement processes are designed to ensure cost-effective outcomes for ratepayers by maximizing competition and providing quality information for competitive bids.
- In all markets, explore innovative procurement approaches that meet growing customer-driven demand and respect unique provincial electricity market structures.

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## **Task 4: Rethink Canada's electricity infrastructure investments and seek to minimize the cost of new transmission and distribution infrastructure needed to expand electricity production:**

- Use existing infrastructure more efficiently by reducing peak demand to avoid/defer the need for new investment through consideration and deployment of non-wires alternatives (e.g., energy storage technologies and distributed energy resources).
- Where new transmission investment is required, consider such investment from a regional perspective, and not solely from a provincial perspective.
- Increase regional collaboration and co-operation with respect to electricity grid infrastructure and operations to reduce the costs of meeting Canada's greenhouse gas emission reduction targets.

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## **Task 5: Use decarbonized electricity to reduce greenhouse gas emissions in Canada's transportation, buildings, and industry sectors:**

- Develop and implement comprehensive electrification strategies for these sectors that send a clear signal to investors that more decarbonized electricity will be required.
- Develop hydrogen strategies to ensure that Canada is well prepared to compete in future markets that will put an increasing value on the lowest carbon intensity green hydrogen.

**As Canada sets out on a transformative journey to reach net-zero GHG emissions by 2050, we need a powerful boost from wind energy, solar energy and energy-storage technologies.**

### **About the Canadian Renewable Energy Association**

The Canadian Renewable Energy Association (CanREA) is the voice for the wind energy, solar energy and energy storage industries in Canada. CanREA represents more than 300 companies active in these industries across the country, including manufacturers, installers, developers, service providers and supply-chain partners. Through stakeholder advocacy and public engagement, CanREA works to create the conditions for a modern energy system, in which clean, low-cost, reliable, flexible and scalable solutions play a central role in transforming Canada's energy mix. For more information about CanREA, please visit [renewablesassociation.ca](https://renewablesassociation.ca).

**For more information on CanREA's 2050 Vision, see: [renewablesassociation.ca/2050-vision](https://renewablesassociation.ca/2050-vision)**

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